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09/936,775	11/16/2001	Michael Bazylenko	CU-2649 RJS	9388

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EXAMINER

WOOD, KEVIN S

ART UNIT PAPER NUMBER

2874

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/936,775

Applicant(s)

BAZYLENKO ET AL.

Examiner

Kevin S Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 21 is/are rejected.
- 7) ☒ Claim(s) 5-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Brian Healy

## DETAILED ACTION

### *Specification*

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

### *Claim Objections*

2. Claims 5 and 6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits. In this case multiple dependent claim 5 is dependent upon multiple dependent claim 4. Claim 6 depends upon claim 5 and therefore includes the same multiple dependency problem.
3. Claims 7 and 8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits. In this case multiple dependent claim 7 is dependent upon multiple dependent claim 4 and/or multiple dependent claim 5. Claim 8 depends upon claim 5 and therefore includes the same multiple dependency problem.
4. Claim 9 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

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5. Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim.

See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

6. Claim 11 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim.

See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

7. Claims 12-15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

8. Claims 17-19 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-4 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,841,931 to Foresi et al.

Referring to claim 1, Foresi et al. discloses all the limitations of the claimed invention. Foresi et al. discloses a method for forming a low loss waveguide structure including the steps: forming a silicon-based waveguide (14) on a substrate by depositing a waveguide layer comprising amorphous silicon onto the substrate; wherein the waveguide layer has a refractive index which is greater than a refractive index of the substrate. See Fig. 1-2 and their respective portions of the specification.

Referring to claims 2-4, Foresi et al. discloses all the limitations of the claimed invention. Foresi et al. discloses a method where a first layer (12) of silicon dioxide or silicon nitride is deposited on a monocrystalline silicon substrate (10). See Fig. 1-2 and their respective portions of the specification.

Referring to claims 21, Foresi et al. discloses all the limitations of the claimed invention. Foresi et al. discloses an optical device incorporating a amorphous silicon based waveguide formed on a substrate, the device also comprising an optoelectronic devices (emitters and detectors). See Fig. 1-2 and their respective portions of the specification.

***Allowable Subject Matter***

11. Claim 20 is allowed.
12. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claim 20, the prior art does not disclose all the limitations of the claimed method. The prior art does not disclose a method of coupling a silicon-based waveguide to an optical fiber, where an end portion of the waveguide is oxidized so as to alter the refractive index of the end portion, the oxidation being controlled so as to create a refractive index profile in which the refractive index at an outer end portion matches that of the optical fiber.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,533,907 to Demaray et al.

This reference discloses forming a amorphous silicon-based waveguide (74) on a substrate by depositing a waveguide layer comprising amorphous silicon onto the silicon wafer (72); wherein the waveguide layer has a refractive index which is greater than a refractive index of the substrate.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (703) 605-5296. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 307-0956.

KSW  
May 1, 2003



Brian Healy  
Primary Examiner